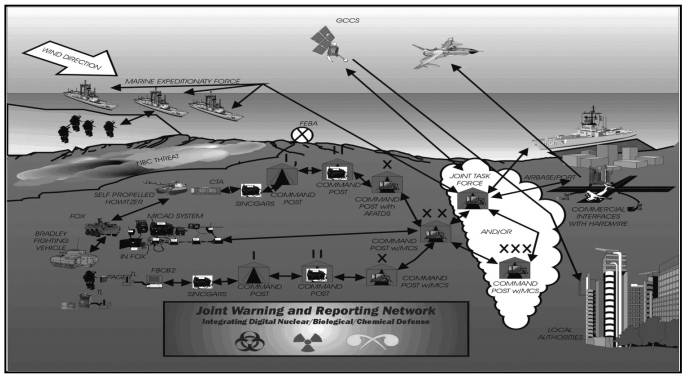
JOINT WARNING AND REPORTING NETWORK (JWARN)



The Joint Warning and Reporting Network (JWARN) is a standardized software application intended to provide NBC warning and reporting, downwind hazard prediction, operations planning, and NBC management capabilities for Joint Forces, from battalion to theater-level command. JWARN will be located in the NBC Cell of Command and Control Centers and employed by NBC specialists and other designated personnel. In peacetime, JWARN will assist local commanders to assess and predict the effects of Toxic Industrial Materials (TIM) accidents. Its primary functions are summarized below:

Essential Wartime tasks

- Report and warn Commanders and personnel of NBC attacks.
- Perform analysis of NBC information, and conduct hazard prediction, modeling, and simulation of NBC attacks.
- Support planning and assessments of NBC defense.

Peacetime tasks

- Support assessments and predict effects of TIM accidents.

Supporting tasks

- Support sensor management including maintenance planning, configuration control, performance monitoring, and testing.

JWARN will be hosted on Joint and Service Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems utilizing the Defense Information Infrastructure Common Operating Environment (DII COE) common resources applications. JWARN C4ISR host systems include: Global Command and Control System (GCCS), GCCS-Army, GCCS-Maritime, Maneuver Control System, the Theater Battle Management Core Systems, Force XXI Battle Command, Brigade and Below, Advanced Field Artillery Tactical Data System, and Command and Control PC. The JWARN will share information with Command and Control and other DoD data bases providing information on friendly and enemy forces, terrain, weather, and others.

This system is intended to exchange information with legacy and new development NBC sensors, including the M8A1 Chemical Agent Alarm, M21 Remote Sensing Chemical Agent Automatic Alarm, M22 Automated Chemical Agent Detection Alarm, Integrated Point Detection System, Radiac AN/VDR-

2, Radiac ADM-300A, and the following systems in development: Joint Biological Point Detection System, Joint Services Lightweight Standoff Chemical Agent Detector, Joint Chemical Agent Detector, NBC Reconnaissance System, and Joint Services Light NBC Reconnaissance Vehicle. The JWARN Component Interface Device will allow the exchange of information between the NBC sensors and the JWARN application hosted on the C4ISR systems via Service specific C4ISR communications architecture (radio, wire, etc).

The NBC information, consolidated by JWARN in conjunction with weather, friendly and enemy position location information, is intended to support the development of NBC warnings, contaminated area predictions, and overlays showing areas of actual contamination (NBC reports) supporting the near-real time warning and reporting of NBC attacks. This NBC information then becomes a part of the Commander's Situational Awareness-Critical Information Requirements, and Essential Element of Information supporting the decision-making process. JWARN is also intended to provide the capability to produce plans and reports and to access specific NBC information to improve the efficiency of limited NBC personnel assets.

BACKGROUND INFORMATION

The Marine Corps is the lead Service for JWARN development, and the Commander, Marine Corps Systems Command is the Milestone Decision Authority (MDA).

The current program evolved from an earlier program called Block I JWARN. In FY97 the MDA approved the fielding of Block IA, which comprised the following collection of commercial and government off-the-shelf software: Hazard Prediction Assessment Capability, Vapor Liquid, Solid Tracking, and Emergency Information Management System. Since this initial fielding, JWARN functions have been successfully integrated with the Army's UNIX-based Maneuver Control System (Block IB), and with the Windows 98 and Windows NT operating environments for the USAF, USN, and USMC (Block IC). Blocks IA and IC have been fielded. Block IB was not fielded, but successfully demonstrated the compatibility of JWARN with the JTA.

In December 1997, the MDA approved a Program Definition and Risk Reduction (PDRR) phase for Block II development, the current program. Activities associated with this effort are still ongoing. During PDRR, a Performance Specification and the Interface Requirements Specification were completed as a prelude to a solicitation for Engineering and Manufacturing Development. Source selection was completed in FY00, but a contract was not awarded due to lack of proper a C4ISR technical approach. The MDA changed program management in June 2001, forming a partnership between the NBC division of Marine Corps Systems Command, and its C4I division, with the latter designated as lead. Since this change, and in light of program delays experienced since the program was placed under DOT&E oversight in January 2000, the C4I Program Manager has decided to re-baseline the system. The Acquisition Strategy, Acquisition Program Baseline Agreement, schedule, and TEMP are all under revision. A contract to perform JWARN system Integration and Demonstration will be recompeted based on the revised program, with a Milestone B now planned for 3QFY02.

TEST & EVALUATION ACTIVITY

Following designation as a DOT&E oversight program on January 18, 2000, the USMC, as lead Service, has undertaken an extensive review of the JWARN TEMP.

The Acquisition Strategy and Integrated Test Program Summary are under review.

TEST & EVALUATION ASSESSMENT

Since the program was placed on oversight, DOT&E has worked closely with the Marine Corps Systems Command to address the inadequacies of the TEMP.

JWARN is a complex system because it must integrate with so many joint C4ISR systems and NBC sensors. To date, Measures of Effectiveness and Performance have been exclusively technical, or focused on maintainability and environmental suitability. As a result, a significant degree of planning is necessary to bridge the gap between technical criteria and operational criteria for IOT&E, and to understand exactly what information is to be exchanged and by what systems. There also has been a tendency to view the performance of JWARN in isolation – first from the NBC sensors and, second, from the host C4ISR systems. It will be a challenge to conduct operational testing within the context of the total system of forces, sensors, and C4ISR systems.

Despite the significant development already demonstrated with Block I and the PDRR phase, there is no Block II Acquisition Strategy. The TEMP is not approved and must describe system content, development priorities, scope of planned testing, and resources adequately.

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